

Lakeland Electric

Smart Grid Initiative

Abstract

Lakeland Electric's (Lakeland) Smart Grid Initiative includes smart meters, time-based rate programs, advanced customer service options, and communications infrastructure. The project implements two-way communications and metering expected to: (1) enable customers to view their energy consumption at their convenience through in-home displays and a Web portal, (2) provide time-based rate programs to customers, (3) provide information and tools to improve outage management, and (4) reduce distribution operations and maintenance costs.

Smart Grid Features

Communications infrastructure includes an advanced metering infrastructure (AMI) point-to-point radio network. Radio devices in new smart meters transmit data through a 900-MHz network licensed by the Federal Communications Commission and send data to multiple radio towers. The upgraded meter data management system and outage management system use data and notifications from smart meters and automated distribution equipment.

Advanced metering infrastructure includes smart meters for all 124,000 Lakeland customers. The AMI deployment enables time-based rate programs and advanced service options for interested customers. Lakeland expects lower operations costs from remote meter reading and more frequent identification of electricity theft. New AMI features such as outage and restoration notification and a remote service switch enable Lakeland to respond to outages and customer requests more efficiently.

Advanced electricity service options offered in conjunction with time-based rate programs enable customers to monitor and control their electricity use. In addition, Lakeland provides in-home and in-business displays to customers who volunteer to receive information feedback on their electricity usage. Similar feedback is also available through a Web portal, which provides near real-time energy feedback. These service options are installed to provide residential customers with information feedback and control options to reduce their electric costs. Customers are also able to enroll in a pre-pay option that enables them to set the dollar amount of electricity they plan to use each month. This option enables customers to better manage their costs by adjusting their usage to a fixed amount that is affordable for them.

At-A-Glance

Recipient: Lakeland Electric

State: Florida

NERC Region: SERC Reliability Corporation

Total Budget: \$35,078,152

Federal Share: \$14,850,000

Project Type: Advanced Metering Infrastructure and Customer Systems

Equipment

- 124,000 Smart Meters
- AMI Communication Systems
 - Meter Communications Network
- 3,000 In-Home Displays
- Customer Web Portal Access for 124,000 Customers

Time-Based Rate Programs available to 124,000 Customers

- Time of Use

Key Targeted Benefits

- Reduced Meter Reading Costs
- Reduced Electricity Costs for Customers
- Reduced Operating and Maintenance Costs
- Improved Electric Service Reliability
- Reduced Costs from Distribution Line Losses
- Reduced Truck Fleet Fuel Usage
- Reduced Greenhouse Gas and Criteria Pollutant Emissions

Lakeland Electric (continued)

Time-based rate program includes a new time-of-use pricing option that is being made available for all 124,000 Lakeland customers. In conjunction with informational services and advanced metering, the time-of-use option encourages consumers to shift their consumption from on- to off-peak periods.

Timeline

| Key Milestones | Target Dates |
|---|--------------|
| Communications infrastructure deployment complete | Q2 2011 |
| Time-based rate program implementation complete | Q4 2011 |
| Advanced customer service options deployment complete | Q4 2012 |
| AMI deployment complete | Q1 2013 |

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